International Journal of Academic Research
ISSN: 2348-7666; Vol.4, Issue-9(1), September 2017
Impact Factor: 6.023; Email: drtvramana@yahoo.co.in

"Analysis of Zooplankton from the Waters of Bay of Bengal"

P.Krishna Kishore Lecturer In Chemistry S.K.B.R.College, Amalapuram.

Abstract: *Proximate composition and variations in biomass, protein, Lepid, carbdhydrate into waters of Bay of Bengal along 87°6 longitude(5station) and along 11.1°N latitude (5 station) were estimated. Based on the results observed in the present study Zooplankton does not have extensive lipid storage. Higher caloritic values were attributed to the dominance of copepods in the Zooplankton population throughout the study period.*

Keywords: *Biochemical composition Zooplakon bey of Bengal*

INTRODUCTION

An assessment of biomass, bio chemical composition and energy content in zooplankton is important to have a better understanding of the organic production, productivity and cycling of biogeochemical elements in the marine biotope. Such information is of much importance in estimating the energy available to higher tropic levels, which in turn can be used to estimate harvestable fishery resources. So very few studies has been done. The present Study deals with the biomass, biochemical composition, organic carbon and calorific potential of mixed zooplankton

MATERIALS AND METHODS

Zooplankton samples were collected from 10 stations along 87°E longitude (5 stations) and along 11.1°N late tude) (5 stations).Zooplankton samples were sampled using a Bongo net. At each station horizontal hauls were made for 10 min duration. Immediately after collection, the samples were cleaned to remove salts. water removed from the samples by placing on filter paper and measured the biomass by displacement volume method. Later half of the sample was preserved with 5% formaldehyde for taxonomical studies, and the other half of he sample was freeze dried for estimation of different biochemical constituents using different methods.

Along 89°E Longitude

RESULTS AND DISCUSSION

Details of the biomass, dryweight, densities are given in the table1. Biomass and dry weight along 87°E longitude varied from 1.19 to 11.20 ml 100 m^{-3} and 0.381 to 1.431 gr 100m^{-3}. Along 11.1°N latitude they ranged from 2.20 to 20.00 ml 100-^{3} and 0.241 to 2265 gr 100m-3 total zooplankton in the respective waters rasied from 4230 to 28830 no.100^{-3} and from 4625 to 50480 no.100^{-3} In all stations the present values ane comparable with the values from off shore waters of the Aarabian sea.

TABLE-I

Station wise variation in biomass, total population and dominant groups of zooplankton in the offshore water of Bay of Bengal during Pre-monsoon season.

S.No	Biomass ml 100-3	Dry weight mg 100-3	Total population no.100-3 28830	Dominant groups
1	10.00	1431	28830	Cope,choet,mysid,amph
2	8.00	980	21310	Cope,choet,mysid,amph
3	2.00	480	5870	Cope,from chaet,gast
4	1.50	470	9710	Cope,from chaet,gast
5	1.20	370	4280	Cope,from chaet,gast

Along 11.1° N longitude

1	2.00	230	4625	Cope,amph chact gast
2	5.00	540	11930	Cope,amph chact gast
3	21.00	2250	50480	Cope,amph chact gast
4	10.00	1270	22330	Cope,amph chact gast
5	5.00	510	6670	Cope,from astro FCL

Cope = Copepods

Chaet = Chatognaths

Foram = Forameni fera

Fifteen Zooplankton groups were identified in the waters of Bay of Bengal

Bio-chemical components: Station wise varation of protein, lipid,carbohydrate,Organic Carbon and calorifie values in the mixed protein managed from 24.00-37.00% Lipid content varnatia from 5.00 to 11.00% Organic Carbon of Zooplankton is a reliable source of energy equivalent of secondary production for any season.

CONCLUSIONS

It is there fore evident from the present study that the variations in biochemical constituents influeenced by the species composition of Zooplankton. Higher calorific values observed in the present study may be attributed to the dominance of copepods in the total zooplankton throughout the study period.

References

1.V.R.NAIN, P.GEORGE – Zooplankton studies in the Indian Ocean -1-Mahasagar-Bull-Nator Inst Oceanogy. 1977,10,45-54

2.O.H.Lowny, J.N.Rogenborg,A.L.Fare,R.J.Randall protein measurement with Folin-Plen A reasent J.BioChem 1951,193 265-275

3.T.Platt,V.M.Brawn,B.Irwin Caloric and Carbon Equivalents of Zooplankton biomass,J.Fish Res Bd.Can 1969, 26, 2345-2348